A raised letter in such an application can be composed of six (3×2) points, three points in the vertical direction and two points in the horizontal direction. A variety of symbols can be displayed by combinations of the six points. Each point may, for instance, be 1 mm in diameter, the distance between the centers fo adjacent points in the vertical direction may be 2.2 mm, and the distance between the centers of adjacent points in the horizontal direction 2 mm.

The six points are arranged in a frame. Sentences using the raised letters are expressed by arranging plural ones of such frames in a horizontal direction. The frames are arranged so that the distance between the centers of adjacent points in adjacent frames is 3 mm, and, for instance, thirty-two frames may be provided per line. In the frames thus arranged, the points form raised letters by selectively causing them to protrude through holes in a rigid sheet.

In a display device having 32 characters, 192 small holes corresponding to the above-described protrusions (6 points×32 letters) are formed in a rigid plate. In a conventional device of this type, pins are selectively protruded by flexible wires extending from plungers in such a manner that the pins are loosely moved up and down in the small holes. However, the conventional device is not so practical because, in order to selectively protrude these pins above the rigid plate thereby to form desired raised characters, it is necessary to provide 192 plungers. The invention eliminates this drawback.

In FIGS. 2A through 2C, reference numerals **1**, **1'** and **1''** designate bimorphic structures. As in the bimorphic structure shown in FIG. **1**, the bimorphic structure **1** is composed of a pair of thin piezoelectric ceramic plates **11***a* and **11***b*, on the main surfaces of which metal electrode layers (not shown) are formed, and a thin plate **12** of a relatively elastic metal through which the pair of thin plates **11***a* and **11***b* are joined. Similarly, the bimorphic structure **1'** is made up of a pair of thin piezoelectric ceramic plates **11***a'* and **11***b'* having metal electrode layers and a shim **12'**. The third bimorphic structure **1''** is made up of a pair of thin piezoelectric ceramic plates **11***a''* and **11***b''* having metal electrode layers and a shim **12''**. In the structures **1**, **1'**, and **1''**, a plurality of drive members **1***b*-**1**, **1***b*-**2**, **1***b*-**3**, . . . and **1***b*-*n*, a plurality of drive members **1'***b*-**1**, **1'***b*-**2**, **1'***b*-**3**, . . . and **1'***b*-*n*, and a plurality of drive members **1''***b*-**1**, **1''***b*-**2**, **1''***b*-**3**, . . . and **1***b*''-*n* are defined by groove-shaped cuts which extend forwardly from base parts **1***a*, **1'***a*, and **1''***a*, respectively. Further, reference numeral **2** designates a base board which is open upwardly and has seats **21**, **22**, and **23** on its both side walls. Common metal electrode layers on the lower main surfaces of the bimorphic structure piezoelectric units **1**, **1'**, and **1''** are fixedly secured on the seats **21**, **22**, and **23**, respectively. Of these seats, the seats **22** and **23** are stepped seats which extend forwardly. Accordingly, the piezoelectric units **1**, **1'**, and **1''** form three layers. Vertical spacings g_1 and g_2 are provided between the piezoelectric units **1** and **1'** and between the piezoelectric units **1'** and **1''**, respectively, and there are provided horizontal spacings g_{11} and g_{12} between the front ends of the piezoelectric units **1** and **1'** and between the front ends of the piezoelectric units **1'** and **1''**, respectively.

Further in FIGS. 2A through 2C, reference numerals **3-1**, **3-2**, **3-3**, . . . and **3-***n*, **3'-1**, **3'-2**, **3'-3**, . . . and **3'-***n*, and **3''-1**, **3''-2**, **3''-3**, . . . and **3''**-n designate pins fixed to the drive pieces **1***b*-**1** through **1***b*-*n*, **1'**b-**1** through **1'***b*-*n*, and **1''***b*-**1** through **1''***b*-*n*, respectively. The first groups of pins **3-1** through **3-***n*, the second group of pins **3'-1** through **3'-***n*, and the third group of pins **3''-1** through **3''-***n* are different in length from one another. The upper end of each of these pins is received in a corresponding small hole in a rigid plate **4**.

The pins **3-1** through **3-***n*, **3'-1**, through **3'-***n*, and **3''-1** through **3''-***n* fixed to the front end portions of the drive members **1***b*-**1** through **1***b*-*n*, **1'***b*-**1** through **1'***b*-*n*, and **1''***b*-**1** through **1''**-*n* which extend from the piezoelectric units **1**, **1'**, and **1''**, respectively, are typically 1 mm in diameter. The spacing g_{11} between a first line connecting the centers of the pins **3-1** through **3-***n* and a second line connecting the centers of the pins **3'-1** through **3'-***n*, and the spacing g_{12} between the second line and a third line connecting the centers of the pins **3''-1** and **3''-***n* are, in this example, 2.2 mm. Furthermore, the distance between a line connecting the pins **3-1**, **3'-1**, and **3''-1** on the drive pieces **1***b*-**1**, **1'***b*-**1**, and **1''***b*-**1** in the first column and a line connecting the pins **3-2**, **3'-2**, and **3''-2** on the drive pieces **1***b*-**2**, **1'***b*-**2**, and **1''***b*-**2** is here 2 mm. As a result, these pins are positioned at points forming one raised letter constituted by six points.

To juxtapose two characters, the pins on the drive members in the third and fourth columns are positioned similarly as in the above-described case, and the distance between the line connecting the pins **3-2**, **3'-2**, and **3''-2** on the drive members in the second column and a line connecting the pins **3-3**, **3'-3**, and **3''-3** is 3 mm. The pins for 32 letters in one line are provided on respective drive members in this manner. For instance in the case of FIGS. 2A through 2C, 24 drive pieces (8 columns×3 layers) form four raised letters. If eight piezoelectric devices thus formed are arranged side by side, a total of 192 pins for 32 letters in a line is provided.

When voltage is selectively applied between a desired one of the lead wires **1***c*, **1'***c*, and **1''***c* connected to the base parts of the drive members with the 192 pins and a common lead wire connected to the lowermost metal electrode layers of the piezoelectric units, the selected drive member flexes upwardly so that the end of the corresponding pin carried by that drive member protrudes above the rigid plate through the respective small hole. Desired raised characters are formed in this manner. After 32 raised letters thus formed have been read, application of the voltage is suspended to allow the pins to be retracted to their original positions. From the retracted position, voltage is again selectively applied to the lead wires to selectively cause the ends of selected pins to protrude above the rigid plate so that 32 raised letters in a next line are formed. In this same manner, raised letters are formed in succeeding lines.

As is apparent from the above description, in the comb-shaped piezoelectric drive device of the invention, a number of strip-shaped drive members can be selectively driven. Therefore, when the device is employed as a mechanical signal source in a relay, data transmission device, or the like, the device can be miniaturized and its wiring simplified. Furthermore, since all drive members extend from a single base part, they cannot be shifted when installed. That is, the drive members operate accurately at all times. Employment of the device of the invention is most effective in the case where, as in a raised letter display device, a number of drive members are driven. In manufacturing the piezoelectric drive device of the invention, as described hereinabove, a pair of thin piezoelectric ceramic rectangular plates, each having metal layers on its main surfaces, are bonded together through a metal shim or